TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
JACKSON ENVIRONMENTAL FIELD OFFICE
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TRIP REPORT

Date: 7/26/16

TO: JFO File: Chuck Hayes / SOP-12017

From: Kevin Smith, TDEC-DWR, Jackson Field Office

Subject: 7-25-16 Site Visit in response to spill at Chuck Hayes Facility

On Monday July 25, 2016 I visited the Chuck Hayes Farms facility in Henry County. The purpose of my visit was to investigate a hog wastewater spill Mr. Hayes had reported at his facility on Friday, July 22, 2016.

Mr. Hayes contacted me at 3:39 p.m. on Friday, July 22, 2016 to notify me of a wastewater spill that had occurred at his hog facility. Mr. Hayes indicated they were using a traveling gun to land apply hog wastewater from his lagoon and a hose broke on his reel. Mr. Hayes indicated wastewater ran out of the broken hose for approximately 2-2.5 hours before it was noticed. The power to the pump was immediately shut down to stop the wastewater release. Mr. Hayes indicated the hog wastewater pooled up in the field and ran into a nearby drainage ditch. Mr. Hayes indicated they tried to dam the drainage ditch up to prevent more wastewater from flowing down the drainage ditch. Mr. Hayes asked if it would be better to pump the wastewater out of the drainage ditch or try to flush the wastewater down the ditch with fresh water. I indicated to Mr. Hayes it would be better to pump out as much of the hog wastewater as he could from the drainage ditch. The same afternoon of the spill, Mr. Hayes had two pump trucks come out and pump as much of the hog wastewater from the drainage ditch as they could. Mr. Hayes, also on the same afternoon of the spill, collected a sample of the hog wastewater which had flowed into the drainage ditch. However, with it being Friday and almost 4:00p.m., Mr. Hayes was not able to get the samples to TEC Labs that day. I talked with Mr. Hayes on Monday July 25, 2016 and Mr. Hayes indicated he was planning on driving the samples he collected on Friday July 22, 2016 to TEC labs. I indicated to Mr. Hayes that some of the samples would likely be out of holding time. After talking with Gregg Overstreet, with TDEC-DWR, it was decided that, if the samples were going to be out of holding time, it would be better if Mr. Hayes could collect a new sample. I contacted Mr. Hayes back and provided him with TEC Labs phone number in Jackson, TN, so he could talk to them regarding the holding times of the parameters he needed to have analyzed. I indicated to Mr. Hayes if the lab told him the holding times have passed on the parameters then it would be better to collect another sample from the drainage ditch, if he could. Mr. Hayes contacted me back on Monday July 25, 2016 and indicated he had talked with the lab and the samples were passed holding times. Mr. Hayes indicated that he was going to collect another sample on Tuesday morning July 26, 2016 and take to the lab so that the samples will be in the required holding times.

I met with Mr. Hayes at his facility on the afternoon of Monday July 25, 2016. Mr. John Barron who works for Mr. Hayes was also at the facility. I discussed with Mr. Hayes the information to include in the written response regarding the spill. I indicated to Mr. Hayes that the written response needed to be

submitted within 5 working days, which would be Thursday July 28, 2016. I indicated to Mr. Hayes to let me know when he puts his written response in the mail so that I could document when he mailed it.

After discussing the written response we then went and looked at the location where the spill occurred. The reel gun was still sitting in the same spot it was when the spill occurred. Mr. Barron was at the facility when the spill occurred. Mr. Barron indicated he was cutting hay when the equipment malfunction occurred. Mr. Barron indicated when he came to check the traveling gun he could not see it spraying and knew something was wrong. Mr. Barron indicated when he got down where he could see the gun and seen the wastewater pooled on the ground he immediately went to cut off the main power to the pump to stop the release. Mr. Hayes showed me the 3.3" hose which broke on the reel gun (Pictures 1-2). Mr. Hayes indicated that the traveling gun sprays approximately 243gpm through the gun. Mr. Hayes and Mr. Barron indicated that the wastewater pooled in the application field and flowed south before entering into a drainage ditch. It appeared to me that the wastewater flowed approximately 200 yards before entering the drainage ditch (Pictures 3-5). The drainage ditch was not well defined in the area where the wastewater first entered it and it was dry on the day of my visit.

Mr. Barron showed me the location of the dams he made in the drainage in an effort to stop the wastewater from continuing to flow down the drainage ditch (Pictures 8-10; Figure 1). Mr. Barron made the dams by pushing dirt in the drainage ditch. Mr. Barron made a second dam after they seen that some wastewater was trickling through the first dam. I did not observe pooled wastewater in the drainage ditch up-gradient or immediately down-gradient of the area where the dams were put in place (Pictures 7 and 11). Mr. Barron indicated he was using the bucket of a skid steer to dip wastewater out of the drainage ditch up-gradient of the dams he had made and then was dumping it in an area of the field away from the drainage ditch, which had not received wastewater (Picture 6). I did observe pooled wastewater in the drainage ditch further south (down-gradient) toward Jim Merrell Road. The first pooled wastewater I observed was in a bend of the drainage ditch (Figure 1; Pictures 14-15). There was quite a bit of pooled wastewater between the bend where I first observed the pooled wastewater and Jim Merrell Road (Figure 1; Pictures 14-18). Mr. Barron indicated that they pumped most of the wastewater out of the drainage ditch on Friday July 22, 2016 but they received approximately 0.2 inches of rain on Saturday July 23, 2016. Mr. Barron didn't know if that rainfall event might have washed some wastewater down the drainage ditch or if there was some wastewater that worked its way on down the drainage ditch after they stopped pumping out the drainage ditch on the night of July 22, 2016. Mr. Hayes indicated according to the pump truck drivers approximately 20,000 gallons of wastewater was pumped out of the drainage ditch on Friday July 22, 2016.

We then walked across Jim Merrell Road and I observed what appeared to be hog wastewater pooled in the drainage ditch on the south side of Jim Merrell Road. Based on the coloration of the water observed in the drainage ditch, it did not appear that the hog wastewater made it passed some rocks that were piled up in the drainage ditch (Pictures 19 and 20). From the point where the hog wastewater entered the drainage ditch to the point where it appears to have stopped on the south side of Jim Merrell Road is approximately 0.3 miles (Figure 2). From the point where the hog wastewater appeared to stop to the confluence of Nelson Creek is approximately 0.8 miles (Figure 2).

Mr. Hayes was going to collect a sample from one of the remaining pools of wastewater in the drainage ditch Tuesday Morning July 26, 2016. Mr. Hayes was also planning to get the pump trucks back out either the evening of July 25, 2016 or Tuesday Morning July 26, 2016 and pump out as much of the remaining hog wastewater as he could. I asked Mr. Hayes to take pictures and send to me after they finished pumping out as much of the remaining hog wastewater as they could.

After leaving the facility I stopped on Shady Grove Road where Nelson Creek runs underneath it. I did not observe anything that appeared to be hog wastewater at this location (Pictures 21-22; Figure 2).

Mr. Hayes stopped by our office on Tuesday July 26, 2016 and provided me with his written response regarding the spill that occurred at his hog facility on July 22, 2016. Mr. Hayes indicated that he collected a new sample from one of the remaining pools of hog wastewater earlier in the day and had delivered it to TEC Labs in Jackson. He provided me with a copy of the Chain of Custody. Mr. Hayes indicated that TEC Labs told him it would likely be 5-7 days before the results would be ready. Mr. Hayes also indicated that after he finished collecting the sample he had pump trucks out there to pump out as much of the remaining wastewater as they could. Mr. Hayes indicated according to the pump truck driver approximately 2,000 gallons of wastewater was pumped out of the drainage ditch on Tuesday July 26, 2016. In total, it was estimated that the pump trucks pumped approximately 22,000 gallons of wastewater out of the drainage ditch. Mr. Hayes indicated he would email me some pictures of the drainage ditch after they finished pumping it out.

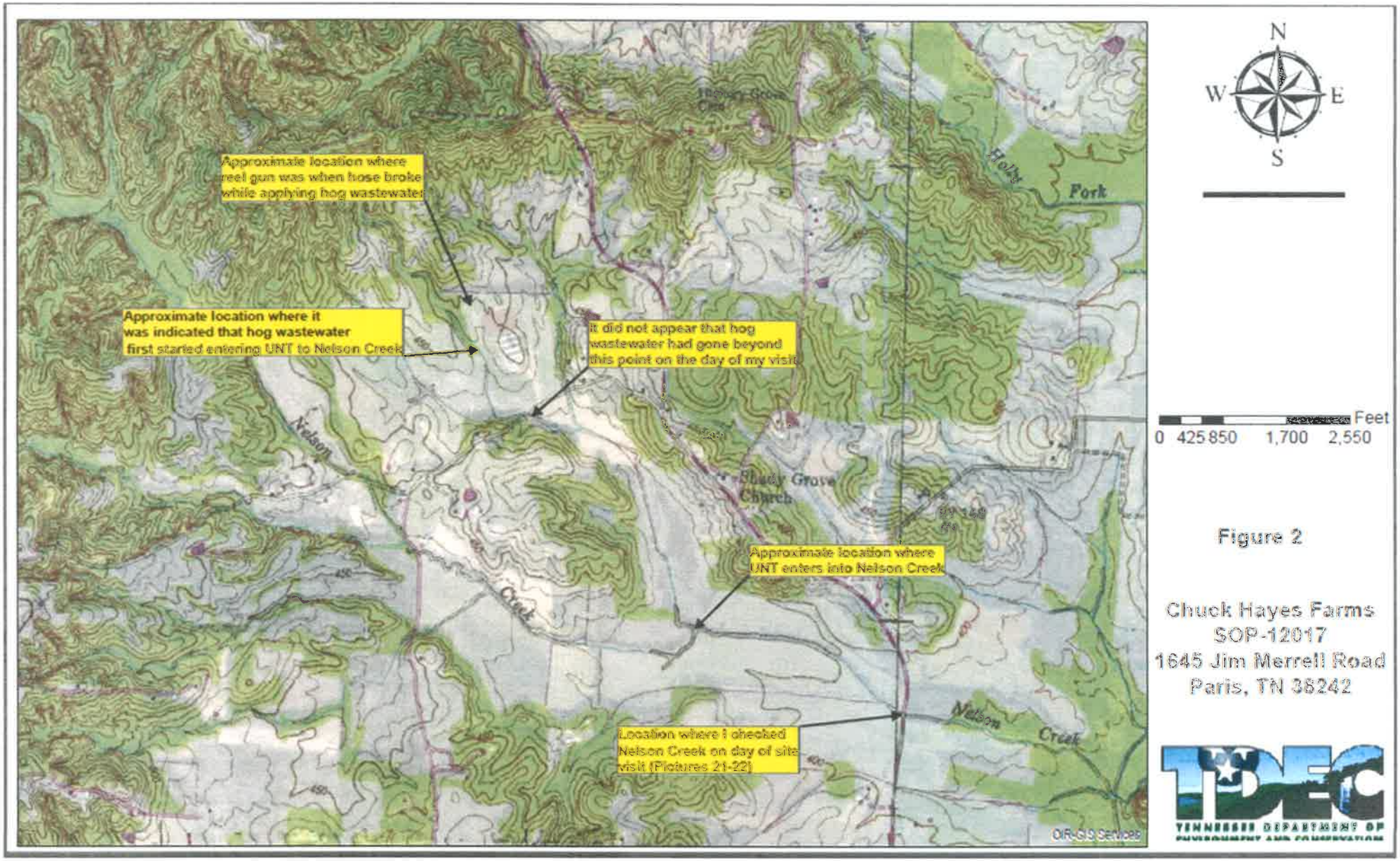
On July 27, 2016, Mr. Hayes sent me via email 6 pictures taken after the drainage ditch had been pumped out again on July 26, 2016. The pictures Mr. Hayes provided are attached to this report and are identified as Pictures 23-28. On August 17, 2016 I received the sample results of the sample Mr. Hayes collected on July 26, 2016.

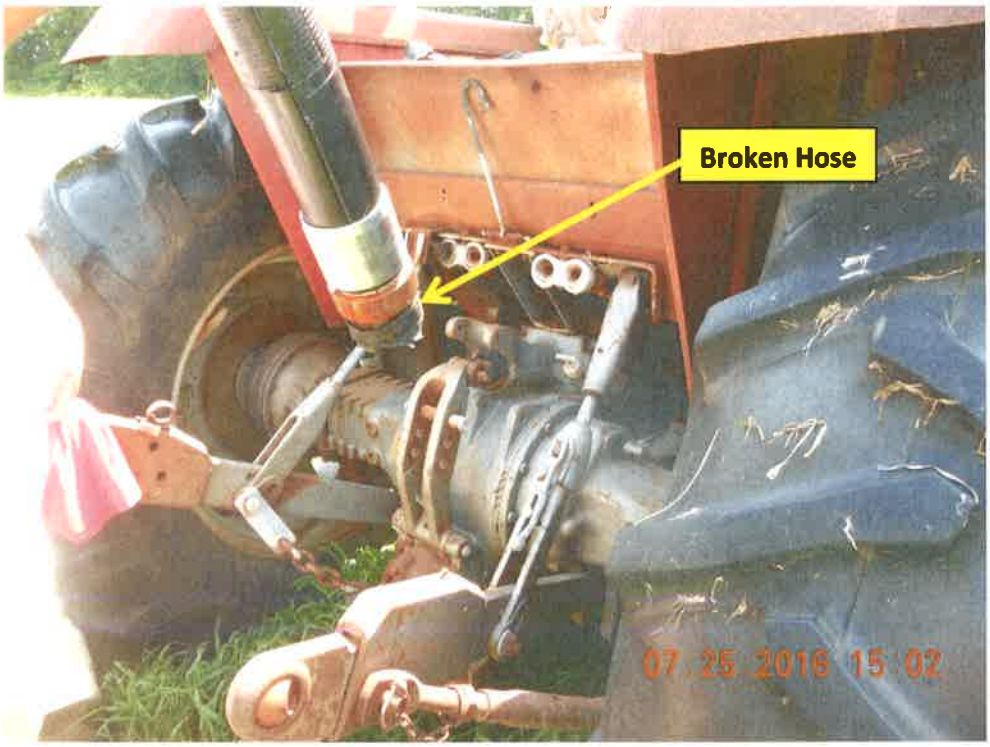
Mr. Hayes self-reported the wastewater spill, collected a sample from the wastewater spill, and provided a written response within the timeframes outlined in his permit. Mr. Hayes also stopped the release and pumped as much of the wastewater from the drainage ditch as he could. On the day of my visit, it appeared that the wastewater spill did not reach Nelson Creek. Based on my site visit, it appears that no or very little impact to Nelson Creek occurred as a result of the wastewater spill at the Chuck Hayes facility.

Kevin Smith, Environmental Scientist 3
TDEC, Division of Water Resources

cc: John Newberry, NCO
JFO File: Chuck Hayes SOP-12017

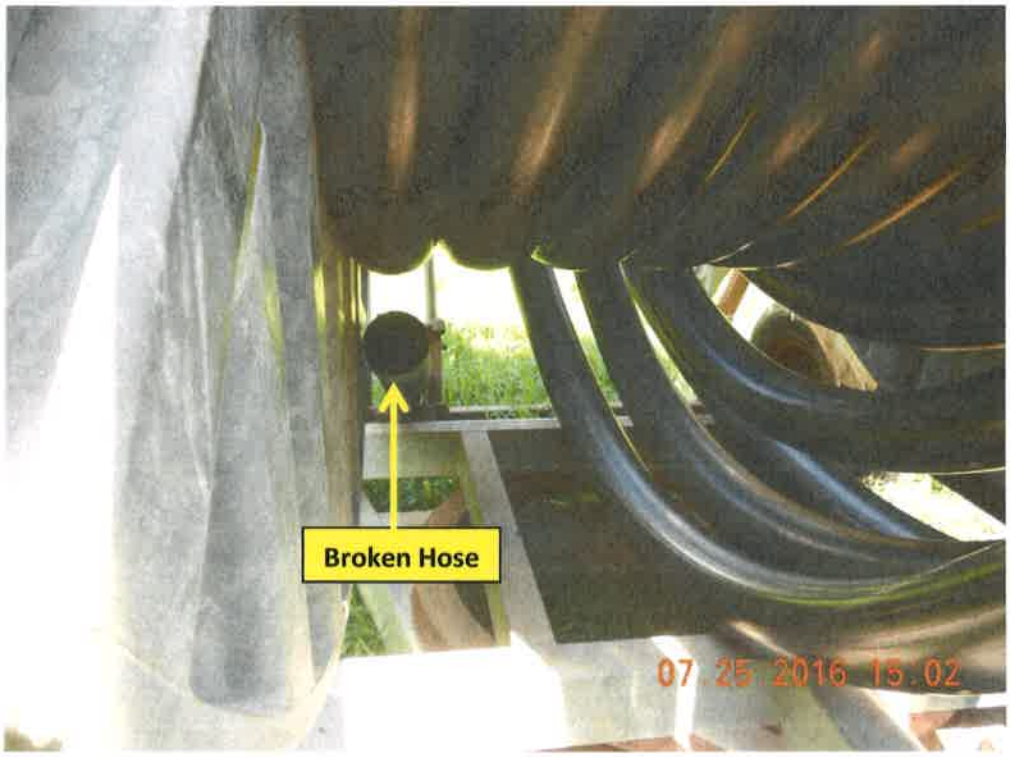

Approximate location of Tractor and Reel Gun when hose broke while applying hog wastewater (Pictures 1-4)
Approximate location where it was indicated that hog wastewater started entering UNT to Nelson Creek (Pictures 4 and 5)
Approximate location where dams were put in place to stop flow of hog wastewater (Pictures 8-10)
Approximate location of Picture 17
On day of visit it did not appear that hog wastewater went beyond this point (Pictures 19-20)
Approximate location where what appeared to be hog wastewater was first observed pooled in UNT to Nelson Creek on day of visit (Pictures 14-15)
N
W
E
S
Feet
0 85 170 340 510
Figure 1
Chuck Hayes Farms
SOP-12017
1645 Jim Merrell Road
Paris, TN 38242
TDEC
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION


Approximate location where reel gun was when hose broke while applying hog wastewater
Approximate location where it was indicated that hog wastewater first started entering UNT to Nelson Creek
It did not appear that hog wastewater had gone beyond this point on the day of my visit
Approximate location where UNT enters into Nelson Creek
Location where I checked Nelson Creek on day of site visit (Pictures 21-22)
Holly Fork
Nelson Creek
Shady Grove Church
N
W
E
S
Feet
0 425 850 1,700 2,550
Figure 2
Chuck Hayes Farms
SOP-12017
1645 Jim Merrell Road
Paris, TN 38242
TDEC
TENNESSEE DEPARTMENT OF



Picture 1

Date of Photo: 7/25/16. Photo taken by: Kevin Smith. Location/Site Name: Chuck Hayes/SOP-12017. TDWR personnel Present: Kevin Smith. Remarks: Picture is of hose which broke and caused the hog wastewater spill.



Picture 2

Date of Photo: 7/25/16. Photo taken by: Kevin Smith. Location/Site Name: Chuck Hayes/SOP-12017. TDWR personnel Present: Kevin Smith. Remarks: Picture is of the other half of the hose that was broke in Picture 1.

Picture 3

Date of Photo: 7/25/16. Photo taken by: Kevin Smith. Location/Site Name: Chuck Hayes/SOP-12017. TDWR personnel Present: Kevin Smith. Remarks: Picture is of reel used to apply hog wastewater to field. When the hose shown in Pictures 1 and 2 broke wastewater pooled in the field and flowed south approximately 200 yards before entering into a drainage ditch. Picture was taken facing south.

Picture 4

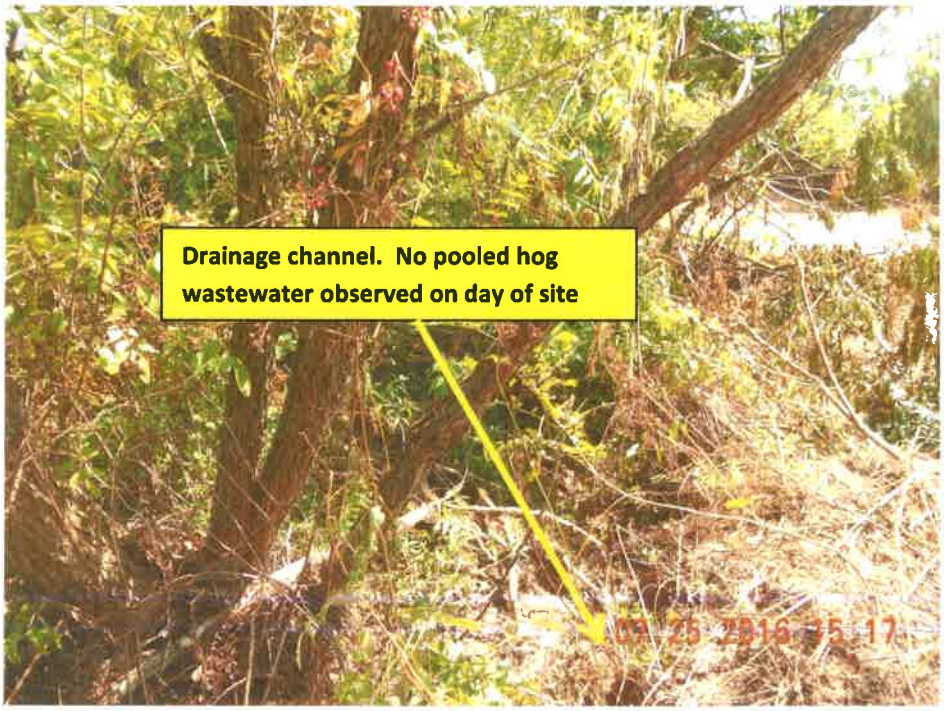
Date of Photo: 7/25/16. Photo taken by: Kevin Smith. Location/Site Name: Chuck Hayes/SOP-12017. TDWR personnel Present: Kevin Smith. Remarks: Picture was taken at point indicated by Mr. Barron and Mr. Hayes that hog wastewater started leaving field and entering drainage ditch. It appeared the hog wastewater traveled approximately 200 yards south before entering drainage ditch. Picture was taken facing north back towards tractor and reel.

Picture 5

Date of Photo: 7/25/16. Photo taken by: Kevin Smith. Location/Site Name: Chuck Hayes/SOP-12017. TDWR personnel Present: Kevin Smith. Remarks: Picture was taken from same location as Picture 4 only now I am facing west/southwest towards drainage ditch. It was grown up around drainage ditch and channel was not well defined.

Picture 6

Date of Photo: 7/25/16. Photo taken by: Kevin Smith. Location/Site Name: Chuck Hayes/SOP-12017. TDWR personnel Present: Kevin Smith. Remarks: Picture was taken further south down drainage ditch which hog wastewater flowed to. Channel of ditch is a little more defined than what it was further north where hog wastewater first started entering ditch. A skid steer was used in this location to scoop pooled wastewater from ditch and dump over in application field. This location is up-gradient of dams that were built to stop the flow of wastewater down the drainage ditch.



Picture 7

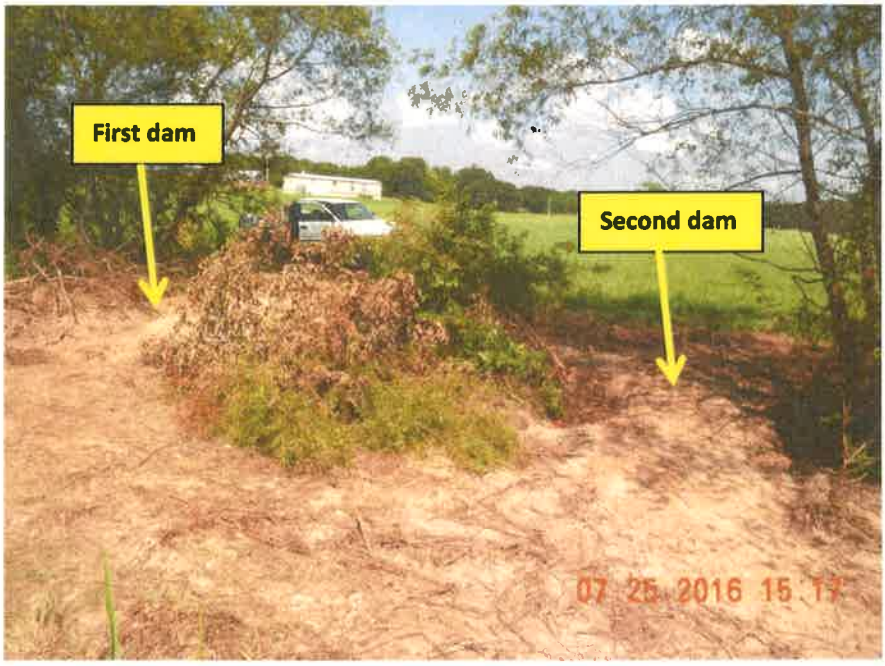
Date of Photo: 7/25/16. Photo taken by: Kevin Smith. Location/Site Name: Chuck Hayes/SOP-12017. TDWR personnel Present: Kevin Smith. Remarks: Picture is of drainage ditch down-gradient of location shown in Picture 6 and immediately up-gradient of the first dam put in place to stop the flow of wastewater. Drainage ditch was dry in this location on day of visit.

Picture 8

Date of Photo: 7/25/16. Photo taken by: Kevin Smith. Location/Site Name: Chuck Hayes/SOP-12017. TDWR personnel Present: Picture is of where first dam was built to stop the flow of hog wastewater down drainage ditch. A skid steer was used to push dirt into the drainage ditch. Picture was taken standing on west side of drainage ditch facing northeast.

Picture 9

Date of Photo: 7/25/16. Photo taken by: Kevin Smith. Location/Site Name: Chuck Hayes/SOP-12017. TDWR personnel Present: Kevin Smith. Remarks: Picture is of 2nd dam put in place. Hog wastewater was seeping through the first dam put in place so a second dam was put in place to try to stop the flow. Picture was taken on west side of drainage ditch facing east/southeast.



Picture 10

Date of Photo: 7/25/16. Photo taken by: Kevin Smith. Location/Site Name: Chuck Hayes/SOP-12017. TDWR personnel Present: Kevin Smith. Remarks: Picture is of the two dams that were put in place to stop the flow of hog wastewater in the drainage ditch. Picture was taken standing on west side of drainage ditch facing east/northeast.

Picture 11

Date of Photo: 7/25/16. Photo taken by: Kevin Smith. Location/Site Name: Chuck Hayes/SOP-12017. TDWR personnel Present: Kevin Smith. Remarks: Picture is of drainage ditch immediately down-gradient of the dams. Drainage ditch immediately down-gradient of dams was dry on day of site visit.

Picture 12

Date of Photo: 7/25/16. Photo taken by: Kevin Smith. Location/Site Name: Chuck Hayes/SOP-12017. TDWR personnel Present: Kevin Smith. Remarks: Picture is of drainage ditch and was taken a little further down-gradient of Picture 11. Drainage ditch was dry in this location on day of visit. I took this picture facing up-gradient towards dams.

Picture 13

Date of Photo: 7/25/16. Photo taken by: Kevin Smith. Location/Site Name: Chuck Hayes/SOP-12017. TDWR personnel Present: Kevin Smith. Remarks: Picture 13 was taken standing in same location as Picture 12 only now I am facing down-gradient. Drainage ditch was dry in this location on the day of my visit.

Picture 14

Date of Photo: 7/25/16. Photo taken by: Kevin Smith. Location/Site Name: Chuck Hayes/SOP-12017. TDWR personnel Present: Kevin Smith. Remarks: Picture was taken further down-gradient from Pictures 12 and 13 in bend of drainage ditch. This was a low spot in drainage ditch. There was what appeared to be hog wastewater pooled in this location on the day of my visit. It was indicated that this area was pumped out on day of spill but there was a 0.2 inch rain over the weekend which may have carried some additional wastewater into ditch or wastewater moved on down the drainage ditch after they stopped pumping out the drainage ditch Friday night.

Picture 15

Date of Photo: 7/25/16. Photo taken by: Kevin Smith. Location/Site Name: Chuck Hayes/SOP-12017. TDWR personnel Present: Kevin Smith. Remarks: Picture is of what appears to be more hog wastewater pooled in drainage ditch down-gradient of picture 14. It was indicated that this area was pumped out on day of spill but there was a 0.2 inch rain over the weekend which may have carried some additional wastewater into ditch or wastewater moved on down the drainage ditch after they stopped pumping out the drainage ditch Friday night.

Picture 16

Date of Photo: 7/25/16. Photo taken by: Kevin Smith. Location/Site Name: Chuck Hayes/SOP-12017. TDWR personnel Present: Kevin Smith. Remarks: Picture is of what appeared to be hog wastewater pooled in drainage ditch further down-gradient from picture 15. It was indicated that this area was pumped out on day of spill but there was a 0.2 inch rain over the weekend which may have carried some additional wastewater into ditch or wastewater moved on down the drainage ditch after they stopped pumping out the drainage ditch Friday night.

Picture 17

Date of Photo: 7/25/16. Photo taken by: Kevin Smith. Location/Site Name: Chuck Hayes/SOP-12017. TDWR personnel Present: Kevin Smith. Remarks: Picture is of what appears to be hog wastewater in drainage ditch further down-gradient of picture 16. This was largest spot of pooled wastewater observed in drainage ditch. It was indicated that this area was pumped out on day of spill but there was a 0.2 inch rain over the weekend which may have carried some additional wastewater into ditch or wastewater moved on down the drainage ditch after they stopped pumping out the drainage ditch Friday night.

Picture 18

Date of Photo: 7/25/16. Photo taken by: Kevin Smith. Location/Site Name: Chuck Hayes/SOP-12017. TDWR personnel Present: Kevin Smith. Remarks: Picture is of where drainage ditch enters culvert on northside (up-gradient) of Jim Merrell Road. There was what appeared to be hog wastewater pooled in front of the culvert.

Picture 19

Date of Photo: 7/25/16. Photo taken by: Kevin Smith. Location/Site Name: Chuck Hayes/SOP-12017. TDWR personnel Present: Kevin Smith. Remarks: Picture was taken on southside (downgradient) of the culvert which runs under Jim Merrell Road. There were cattle observed out in this pasture on day of site visit.

Picture 20

Date of Photo: 7/25/16. Photo taken by: Kevin Smith. Location/Site Name: Chuck Hayes/SOP-12017. TDWR personnel Present: Kevin Smith. Remarks: Picture was taken on southside (downgradient) of the culvert which runs under Jim Merrell Road. It appears that the hog wastewater did not go beyond the rocks which are piled up in the drainage ditch. Note the difference in the color of water pooled in front (up-gradient) of the rocks and below (down-gradient) of the rocks. The water pooled in front of the rocks has a dark reddish tint to it, which indicates it may be hog wastewater. The water pooled beyond the rocks was lighter in color and appeared more clear than the water pooled up-gradient of the rocks.

Picture 21

Date of Photo: 7/25/16. Photo taken by: Kevin Smith. Location/Site Name: Chuck Hayes/SOP-12017. TDWR personnel Present: Kevin Smith. Remarks: Picture was taken were Nelson Creek runs under Shady Grove Road. Picture was taken on the up-stream side of Shady Grove Road. The drainage ditch which the hog wastewater flowed into eventually drains into Nelson Creek. The water observed at this location on the day of my visit did not have a reddish tint to it like what was observed in the drainage ditch in Picture 20.

Picture 22

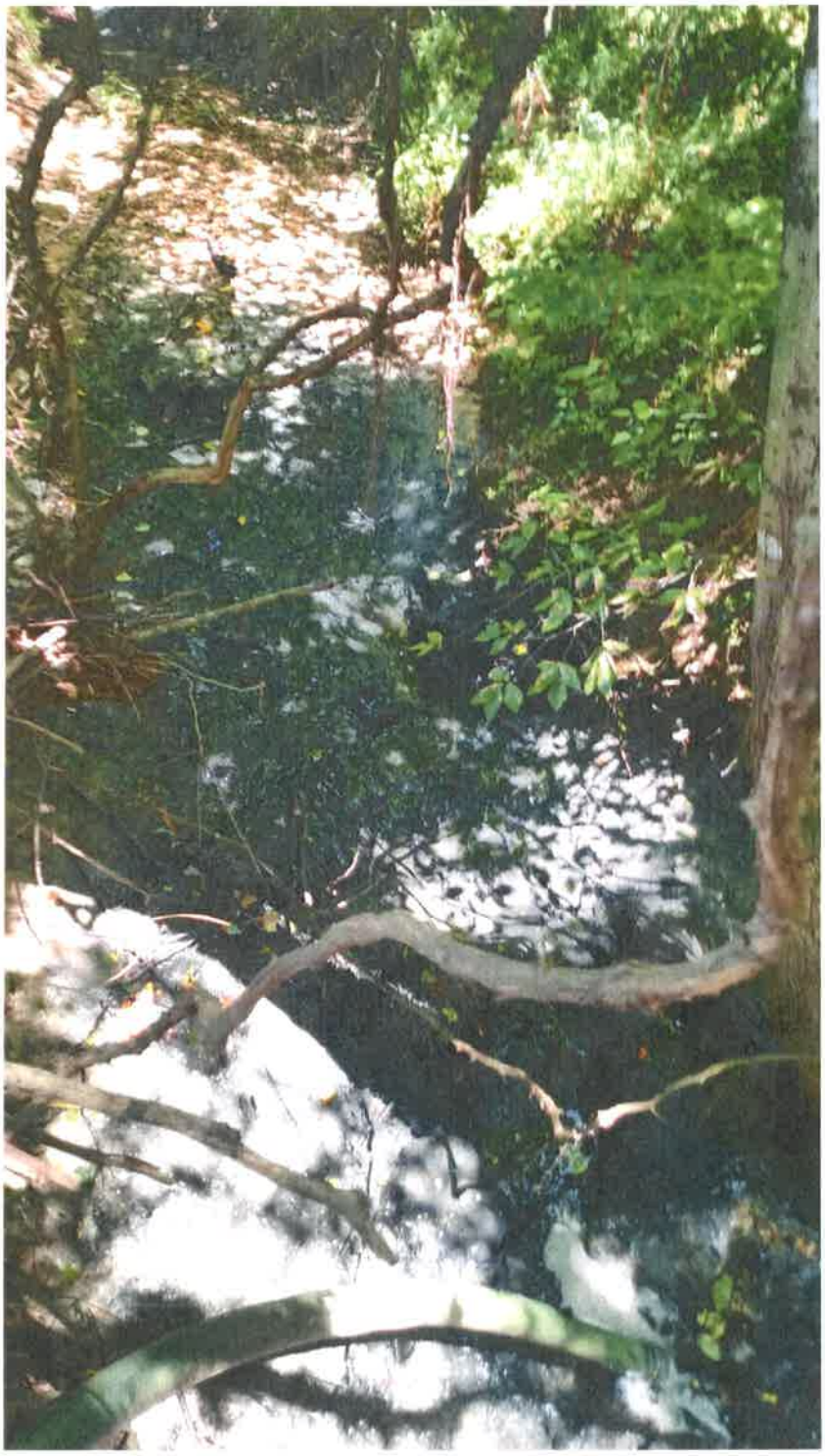
Date of Photo: 7/25/16. Photo taken by: Kevin Smith. Location/Site Name: Chuck Hayes/SOP-12017. TDWR personnel Present: Kevin Smith. Remarks: Picture was taken were Nelson Creek runs under Shady Grove Road. Picture was taken on the down-stream side of Shady Grove Road. The water observed at this location on the day of my visit did not have a reddish tint to it like what was observed in the drainage ditch in Picture 20.

Picture 23

Picture provided by Mr. Chuck Hayes on July 27, 2016 after drainage ditch was pumped out a second time.

Picture 24

Picture provided by Mr. Chuck Hayes on July 27, 2016 after drainage ditch was pumped out a second time.



Picture 25
Picture provided by Mr. Chuck Hayes on July 27, 2016 after drainage ditch was pumped out a second time.

Picture 26

Picture provided by Mr. Chuck Hayes on July 27, 2016 after drainage ditch was pumped out a second time.

Picture 27
Picture provided by Mr. Chuck Hayes on July 27, 2016 after drainage ditch was pumped out a second time.

Picture 28

Picture provided by Mr. Chuck Hayes on July 27, 2016 after drainage ditch was pumped out a second time.